

### **REMARKS**

This reply is in response to the Final Office Action dated June 9, 2010. Claims 1-20 remain pending in the application and stand rejected. No claims have been added or amended in this response, and therefore, no new matter has been introduced. Reconsideration of the claims in view of the following remarks is respectfully requested.

#### **Claim Rejections – 35 U.S.C. § 103**

Claims 1-20 stand rejected under 35 U.S.C. § 103(a) as being obvious over a single reference, U.S. Patent Application Publication No. 2004/0220714 to *Rudd*.

In response to the rejection, Applicant respectfully submits that claims 1-20 are not obvious in view of *Rudd*, as *Rudd* does not teach, show, or even suggest measuring deceleration of a vehicle or calculating a change in the vehicle's measured deceleration over time, as expressly recited in Applicant's independent claims 1 and 2.

#### **I. Measuring Vehicle Deceleration**

A fundamental distinction between Applicant's claimed invention and *Rudd* is that Applicant's independent claims expressly recite measurement of the deceleration of a vehicle, while *Rudd* is directed only to measurement of the rotational speed of a wheel. Applicant submits that one of ordinary skill in the art would readily appreciate the clear distinction between measuring deceleration of an entire vehicle verses measuring change in the rotational speed of a single wheel, as these two parameters are clearly distinct, and as such, Applicant submits that each of claims 1-20 are clearly novel and unobvious in view of *Rudd*.

Further, Applicant submits that *Rudd* is physically incapable of accurately measuring Applicant's claimed vehicle deceleration, as even the smallest amount of [commonly occurring] wheel skid prevents the *Rudd* system from measuring deceleration of a vehicle, as wheel skid causes the measured wheel deceleration to rapidly approach zero, while the vehicle itself is still decelerating. Applicant's claimed invention is specifically directed to measuring overall vehicle deceleration to overcome the *Rudd*-type measurement inaccuracies caused by wheel skid. As such, Applicant again submits that each of claims 1-20 are clearly novel and unobvious in view of *Rudd*.

As further support for the distinction between *Rudd*'s measurement of wheel rotation speed and Applicant's claimed measurement of vehicle deceleration, Applicant notes that

speed/velocity is the rate of change of position with respect to time, which is mathematically the first derivative of position. Acceleration is the rate of change of velocity with respect to time, which is mathematically the second derivative of position. A jolt or jerk is the rate of change of acceleration with respect to time, which is the third derivative of position. With these fundamentals in mind, *Rudd* discloses measuring a velocity and calculating a change in the measured velocity over time (deceleration), whereas Applicant's claims measure a deceleration and calculate a change in the measured deceleration over time (jolt or jerk).

## II. Calculating Vehicle Deceleration Over Time

Yet another fundamental distinction between Applicant's claimed invention and *Rudd* is that Applicant's independent claims expressly recite calculating a change in the measured vehicle deceleration over time. As discussed above, *Rudd* measures wheel rotation speed, not vehicle deceleration. *Rudd* then calculates a change in the measured wheel rotation speed over time {See paras. [0046], [0067]}, which would again be clearly distinct to one of ordinary skill in the art from Applicant's calculated vehicle deceleration over time. In sum, since *Rudd* does not measure the claimed vehicle deceleration, it naturally follows that *Rudd* also cannot calculate the claimed vehicle deceleration over time. As such, Applicants submit that each of claims 1-20 recite at least one limitation that is not taught, shown, or otherwise suggested by *Rudd*, and for at least this reason, allowance of claims 1-20 is respectfully requested.

Claims 3 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rudd* in view of U.S. Patent No. 5,951,122 to *Murphy*. Applicant has distinguished independent claims 1 and 2 with respect to *Rudd* above. Applicant submits that *Murphy* also does not disclose measuring the deceleration of the vehicle or calculating the change in measured deceleration of the vehicle, and as such, Applicant's submit that *Murphy* fails to further the teaching of *Rudd* to the level necessary to properly support an obviousness rejection of any of Applicant's claims. Therefore, Applicant submits that claims 3 and 10 recite at least one limitation that is not taught, shown, or otherwise suggested by *Rudd* or *Murphy*, and for at least this reason, allowance of claims 3-10 is respectfully requested.

Claims 12, 16, 18, and 19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rudd* in view of U.S. Patent No. 4,454,582 to *Cleary*.

Applicant has distinguished claims 1 and 2 with respect to *Rudd* above. Applicant submits that *Cleary* also does not disclose measuring the deceleration of the vehicle or calculating the change in measured deceleration, and as such, Applicant's submit that *Cleary* fails to further the teaching of *Rudd* to the level necessary to properly support an obviousness rejection of any of Applicant's claims. Therefore, Applicant submits that each of claims 12, 16, 18, and 19 recite at least one limitation that is not taught, shown, or otherwise suggested by *Rudd* or *Cleary*, and for at least this reason, allowance of claims 12, 16, 18, and 19 is respectfully requested.

### **CONCLUSION**

Having addressed all issues set out in the office action, Applicant respectfully submits that the pending claims are now in condition for allowance. Applicant invites the Examiner to telephone the undersigned attorney if there are any issues outstanding which have not been addressed to the Examiner's satisfaction.

Respectfully submitted,

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Date

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